

REMARKS/ARGUMENTS

Proposed copies of Figures 5, 7 and 8 are hereby submitted herein for the Examiner's approval. The proposed figures correct minor problems which have been noted the Examiner (Office Action, page 2).

In response's to the Examiner's provisional double patenting rejection, it is respectfully submitted that although the claimed invention of U.S. Application No. 09/851,663 recites a reference stack for keeping track of the references, the claims in the present application are patently distinct because, among other things, the claimed invention recites translating a command into another command when one or more conditions are met (see, for example, claim 1).

Claims have been amended to further clarify the subject matter regarded as the invention. Support for the claim clarifications can, for example, be found on page 13, line 25 to page 15, line 5 (please also see, Fig. 8)

The Examiner's rejections are fully traversed below.

Rejection of claims under 35 U.S.C. 102(b)

In the Office Action, the Examiner has rejected claim 9 under U.S.C. 102(b) as being anticipated by the U.S. Patent No. 5,903,899 (*Steele, Jr.*). Claim 9, among other things, recites the combination of: (i) determining whether a Java command is likely to place the only reference to a Java object on the execution stack, and (ii) and translating the command into another command when it is determined that the Java command is likely to place the only reference to a Java object on the execution stack. The Examiner has asserted that *Steele, Jr.* teaches these features (Office Action, page 7-8).

It is noted that *Steele, Jr.* states that:

"The verifier is altered so that, as it traverses the code of a method (before the code for that method has ever been executed), whenever it examines any particular instance of a nominally indiscriminate instruction and determines which of its operands and results will be references, it replaces that instruction at verification time with one of several instructions that are logically equivalent but distinguish, for each stack operand or result, whether or not that operand or result is a reference."
(*Steele, Jr.*, col. 8, lines 28-37.)

Amendments to the Drawings:

The attached "replacement sheets" of drawings 5, 7 and 8 replace the original sheets.

Attachment: "Replacement Sheets"
Annotated Sheets Showing Changes

However, contrary to the Examiner's assertion, it is very respectfully submitted that the verifier described by *Steele, Jr.* does NOT teach determining whether a Java command is likely to place the only reference to a Java object on the execution stack. As such, it is respectfully submitted that *Steele, Jr.* does NOT teach or suggest the combination of the claimed features (i) and (ii) recited in claim 9.

Although independent claim 15 pertains to a Java Bytecode verifier, it recites similar features as those recited in claim 9. Accordingly, it is respectfully submitted that claim 15 is also patentable over *Steele, Jr.* for at least these reasons.

Rejection of claims under 35 U.S.C. 103(a)

In the Office Action, the Examiner has noted that *Steele* does NOT teach that determining whether a command is likely to place a reference on an execution stack comprises: determining whether there is a change in the control flow. (Office Action, page 11). However, the Examiner has noted that this feature is taught by U.S. Patent No. 6,047,125 (*Agensen et al.*).

It is noted that *Agensen et al.* describes a method for generating bytecodes executable by a virtual machine, comprising the steps of: analyzing a sequence of bytecodes for bytecodes defining two paths in which at least one bytecode of one path uses a variable to store a primitive value and at least one bytecode of the other path uses the variable to store a reference, determining whether both paths branch to a routine comprised of a subset of the sequence of bytecodes, and modifying the bytecode of one of the paths to use a different variable (*Agensen et al.*, col. 5, lines 50-58).

However, it is respectfully submitted that the method of generating byte codes described by *Agensen et al.* does NOT teach or suggest the combination of: (i) determining whether there is a change in the flow control when it is determined that a command is likely to place a reference to an object on an execution stack, and (ii) translating the command into another command when it is determined that there is a change in the flow control (claim 1).

Accordingly, it is respectfully submitted that claim 1 is patentable over *Agensen et al.* for at least this reason alone. In addition, claims that are dependent on claim 1 are also patentable for at least this reason.

Moreover, these dependent claims recite additional features that render them patentable for additional reasons. For example, claim 6 additionally recites that the determining of whether a command is likely to place a reference on the execution stack further comprises: determining whether a Putfield command is likely to overwrite a reference to an object on the execution stack before the reference is used. Contrary to the Examiner's assertion (Office Action, page 12, citing col. 13, lines 46-56 of *Steele, Jr.*), it is very respectfully that the recited section of *Steele, Jr.* does NOT teach this feature.

Furthermore, it is respectfully submitted that *Steele, Jr.* does NOT teach or suggest the combination of: (a) determining whether a Putfield command is likely to overwrite a reference to an object on the execution stack before the reference is used when it is determined that there is not a change in the flow control, and (b) translating the command into another command when it is determined that there is a Putfield command is likely to overwrite a reference to an object on the execution stack before the reference is used.

Although independent claim 20 pertains to a computer readable medium, it recites similar features as claim 1. Accordingly, it is respectfully submitted that claim 20 is patentable for similar reasons.

Conclusion

Based on the foregoing, it is submitted that claims 1-21 are patentably distinct over the cited art of record. Additional limitations recited in the independent claims or the dependent claims are not further discussed because the limitations discussed above are sufficient to distinguish the claimed invention from the cited art. Accordingly, Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner.

Applicants hereby petition for an extension of time which may be required to maintain the pendency of this case, and any required fee for such extension or any further fee required in connection with the filing of this Amendment is to be charged to

Deposit Account No. 500388 (Order No. SUN1P833). Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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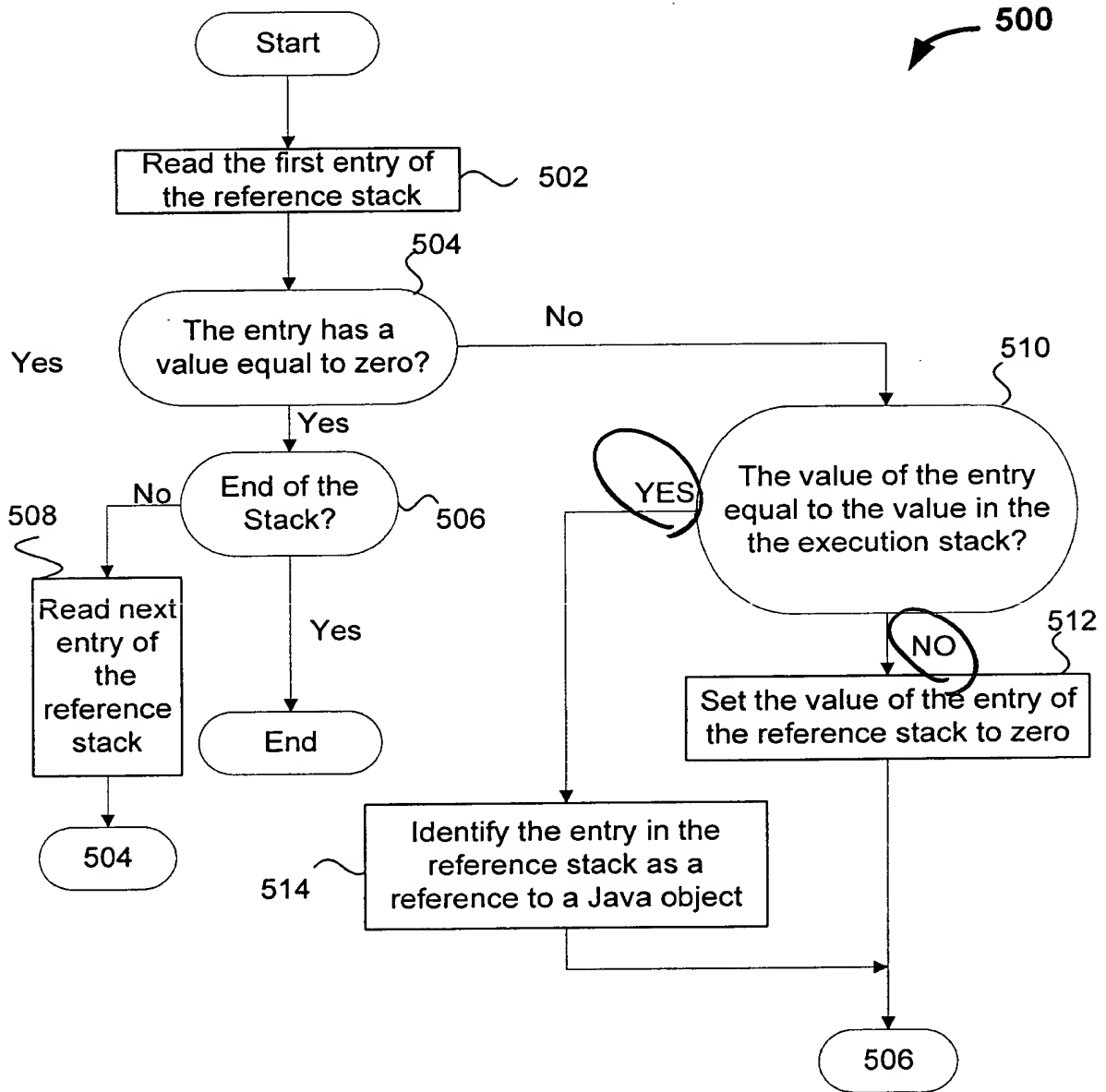


Fig. 5



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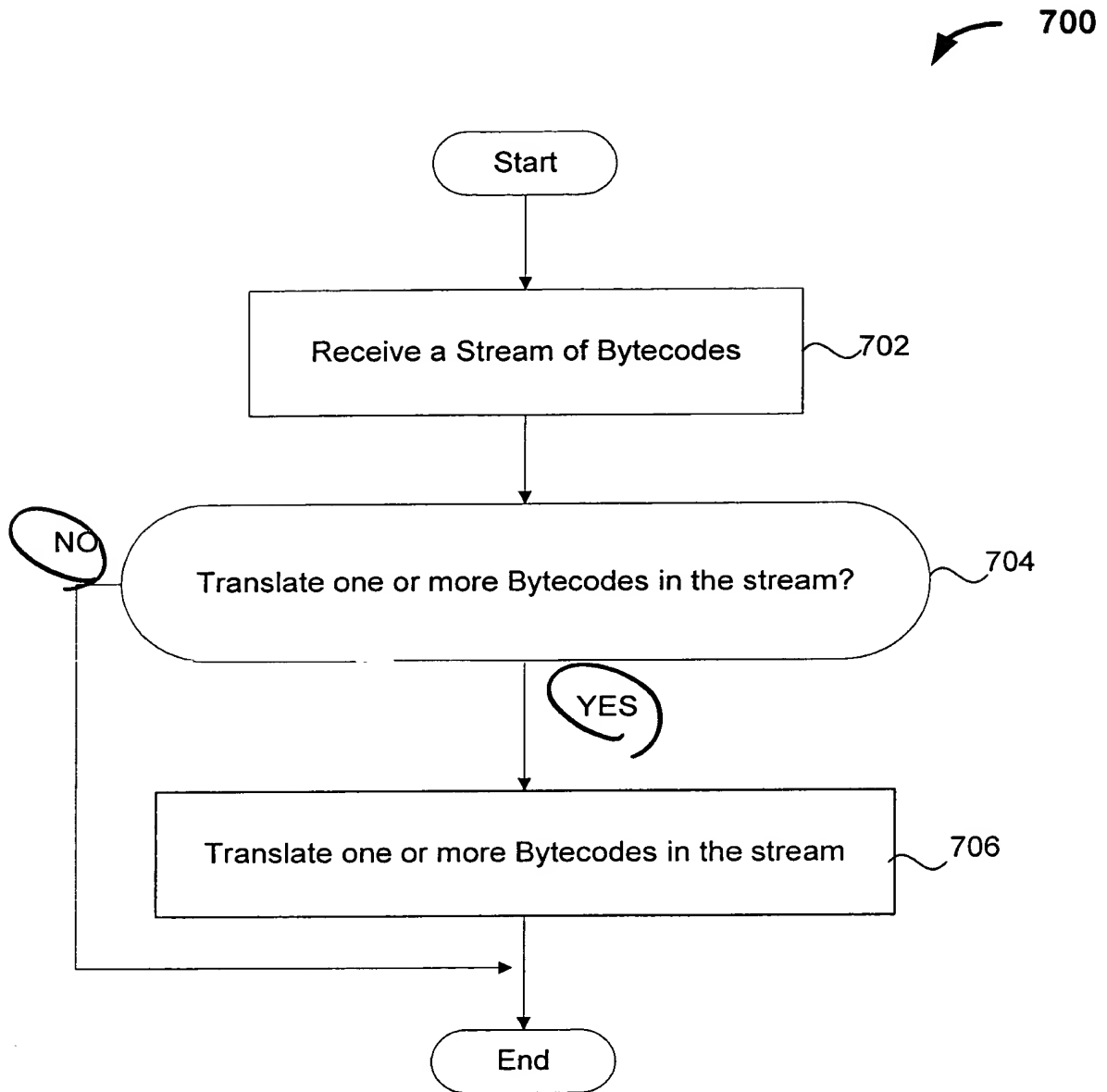
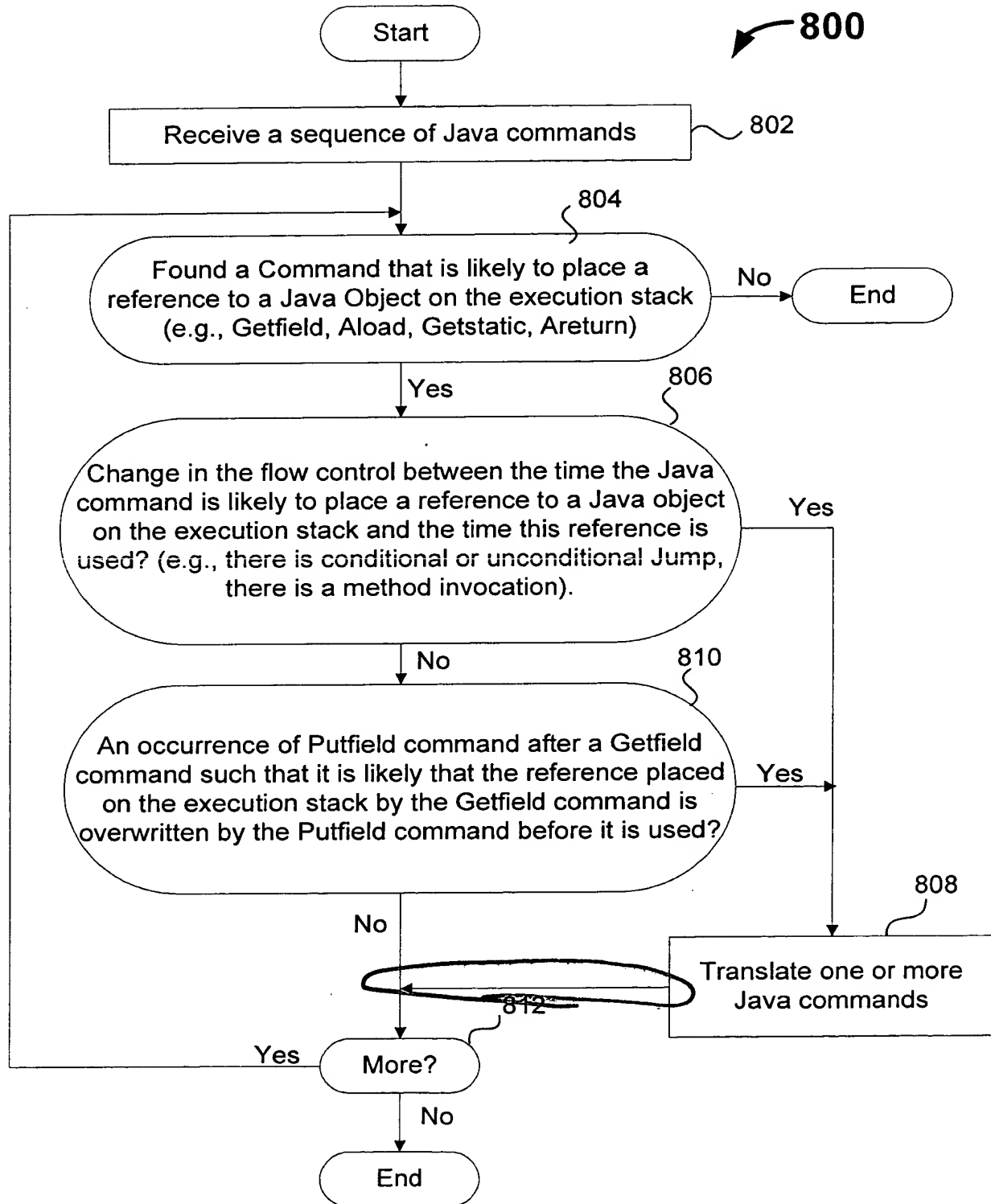


Fig. 7



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**Fig. 8**